

USER MANUAL PANTHERA X



CONGRATULATIONS!

You are now the owner of a Panthera X – the world's lightest wheelchair. Invented, designed and manufactured in Sweden, the Panthera X boasts an advanced composite carbon fiber structure, giving it the rigidity, strength and super-low weight normally associated with aerospace and Formula 1 equipment. And now, wheelchairs. Have fun!

The Panthera team

INTENDED USE

Panthera X is a wheelchair made for very experienced and active users who are comfortable handling a "tippy" wheelchair without tip protectors. The design is optimized for easy handling in and out of cars and has extremely good riding characteristics. The very sleek and minimalistic design gives experienced and active users great opportunity to improve everyday life.

Panthera X is not equipped with tip protectors, since it would impair the agility of the chair. It's important that you feel comfortable handling the unique behaviour and characteristics of such a lightly balanced wheelchair before using it in a "live" environment. As always, practice makes perfect.

To get the most out of your Panthera X, it needs to be adjusted and adapted to your requirements – by you or together with your prescriber. Please study the instructions carefully.



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CARBON FIBRE

The Panthera X is made from Advanced Carbon Fibre Reinforced Plastics, CFRP, which can be moulded into just about any shape. It may sound simple, but is in fact a small technological wonder. Carbon fibre is a fantastic material. But it's a material which works best with smooth, curved shapes that better distribute the force of high loads. Finding the perfect cross-section between smooth, strong shapes and ergonomic, practical design was an engineering challenge requiring years of development, experimentation and practical testing. The result is the strongest and lightest wheelchair ever built.

FINALLY, A CAR FRIENDLY WHEELCHAIR

Getting your wheelchair in and out of your car can be a real bother. But not anymore. Apart from being the lightest wheelchair in the world, the Panthera X is designed with space-saving dimensions and ergonomic grips – making the chair easy to load and stow. Most people can actually lift the wheelchair with one hand.

CARBON FIBRE CARE AND SERVICE

Carbon Fibre Reinforced Plastics are stronger, lighter and more durable than metals, but behave

differently when damaged. Metal structures will bend and deform during failure. When a CFRP structure fails, it will lose most of its strength and rigidity, but without some of the telltale signs of metal, such as bending and buckling.

CFRP structures are vulnerable to damage done by sharp edges, sudden impacts and unusually, local forces. If you suspect that your wheelchair has been damaged, please inspect the entire structure thoroughly or let a specialist inspect it.

IMPORTANT

Advanced Carbon Fibre Reinforced Plastics are very strong and light materials, but also sensitive to sudden impacts and sharp objects. Cracks and other damages to the carbon fibre structure, for example as a result of the wheelchair tipping over onto a hard surface, may lead to sudden breaks.

Avoid:

- Dropping the chassis onto hard surfaces
- Scratching and scraping the carbon fibre structure

INSPECT YOUR WHEELCHAIR REGULARLY

Press on areas you suspect have been damaged
– watch for unusual flexing, bending or cracks.

Run your hand over the chassis surface to check for
cracks or loose fibres. Use slow, careful movements,
to avoid getting any splinters in your hand.

If you find anything that indicates damage, please
contact Panthera AB. DO NOT try to repair the
wheelchair by yourself.



SAFETY

CONDUCT A TECHNICAL INSPECTION OF THE CHAIR AND MAKE SURE THAT:

- The rear wheel axles should move smoothly in and out of the casing
- The button at the hub should spring out when the rear wheels have been inserted
- All four wheels should touch the ground
- The caster fork can be easily rotated
- The backrest folds down easily

BALANCE AND TIPPING CAPACITY

The position of the backrest, the angle and the adjustment of the backrest upholstery are the most significant factors affecting the wheelchair's tendency to tip. After adapting your chair you should check that you feel safe with the balance of the chair. If you feel unsure, you should move the backrest forward. The tipping capacity of the chair is also affected by: hanging a bag on the backrest, leaning / stretching backwards, worn tyres, poorly pumped tyres and unforeseen changes in the surface you are driving on.

WARNING!

A Panthera wheelchair is designed to be as easy to drive as possible and because of this it reacts

quickly to the actions you perform. If you perform the wrong actions the chair can tip backwards. The chair can potentially tip up and it is not possible to issue a warning regarding all the circumstances in which that might occur. The most important safety measures you can take include ensuring that you have tested the chair thoroughly and spend time practicing your wheelchair technique.

If you have any questions about wheelchair technique you should contact the person who prescribed the chair / your therapist. If they are unable to help you, please do not hesitate to contact us at Panthera AB.

BRAKES

Remember that the brakes do not work as effectively on tyres with poor air pressure or on worn tyres. If you change to a new brand of tyre you should always check the brakes since the dimensions may be different. The brakes are designed as parking brakes and not for braking when in motion.

NOTE!

For the brakes to work properly make sure the tires have the right airpressure. See technical facts.

SITTING POSTURE

The wrong sitting posture can cause pressure sores. If you are unsure you should contact your prescriber straight away. Check that the side guards do not exert too much pressure on your thighs since this can cause pressure sores. If the side guards exert too much pressure, the chair is either too narrow or the side guards need to be adjusted. The seat is designed to be used with a cushion.

DRIVING

If the distance between the lowest point of the footrest and the surface is small (less than 40 mm) the footrest can get caught on bumps in the surface and cause you to fall forwards.

CARBON FIBRE

Carbon fibre in free state is unhealthy but in bound form like in the Panthera X chassis, harmless. But if you make mechanical interventions on the chassis with a drill, saw or similar, carbon fibre particles can be exposed and harm your health if you don't use professional safety equipment. Therefore all processing of the chassis on your own is not allowed. Partly because of health issues and partly because the strength of the chassis can be undermined strongly.

TRANSFERS / LIFTING CHAIR AND USER

The chair is lightweight and for this reason it can move sideways when the brakes are on and you transfer from the side. If you are unsure you should practice this activity with your prescriber or therapist. If the wheelchair is lifted with you sitting in it, the chair should always be lifted holding the frame and not the backrest, the wheels or any other parts. See fig.1 below.



FIG. 1

OVERVIEW



ADJUSTMENTS

When adjusting the chair to suit your sitting position and provide the mobility you require, it is important that you make the following adjustments in the correct order. First, adjust the sitting position and after that, adjust the balance of the chair according to your mobility requirements.

The sequence is important since when you change your sitting position you also change the balance of the chair. Consider that the effort you put into adapting your chair will provide long-term benefits later on. Try out different adaptations for a few days to make sure you really have found the best sitting posture and balance of the chair:

1. The tension of the seat upholstery
2. The height of the footrest
3. The tension of the calf band
4. The angle of the backrest
5. The tension of the backrest upholstery
6. The balance of the wheelchair



ADJUSTMENTS

1. TENSION OF THE SEAT UPHOLSTERY (FIG. 3)

The rear section of the seat upholstery can be tightened or loosened by adjusting the Velcro strap underneath the seat as shown in fig. 3. This allows you to vary your seat height by about 2 cm up or down.

2. HEIGHT OF THE FOOTREST (FIG. 4)

The footrest can be adjusted up or down. Remove the two screws supporting the footrest on the front of the frame as shown in fig. 4, unscrew using a 3 mm allen key. You will then be able to move the footrest up or down to fit into one of the pre drilled height positions. You should adjust the footrest at a height where your thighs are supported by the seat at the same time as your feet are supported by the footrest.

3. TENSION OF THE CALF BAND (FIG. 5)

The tension of the calf band, see fig.5, can be adjusted and will affect how far forward you place your feet on the footrest. Loosen the velcro strap and adjust to desired tension.

4. ANGLE OF THE BACKREST (FIG. 6)

The backrest has a stepless angle adjustment. Adjust the angle of the backrest by first loosening the lock nuts (1), see fig.6, using cap key no. 17, and then screw the adjustment screws in or out (2) using the 4 mm allen key. If you screw counterclockwise the backrest will tilt forward and clockwise the backrest will tilt backwards. It is important to adjust both sides equally to avoid the backrest tubing becoming crooked. Test this by putting the backrest in upright position and checking that both adjustment screws are touching the frame. Try out suitable backrest angles and tighten the lock nuts once you are satisfied.

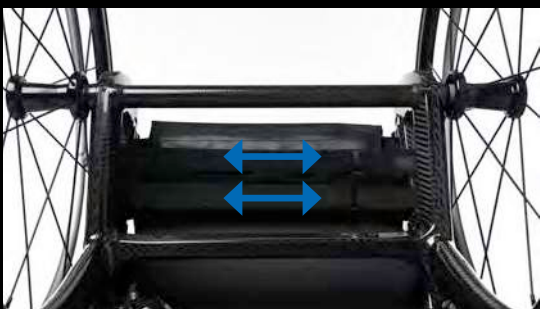


FIG. 3



FIG. 4



FIG. 5

5. TENSION OF THE BACKREST UPHOLSTERY (FIG. 7)

The backrest upholstery can be tightened or loosened by adjusting the Velcro straps at the back (1). The backrest upholstery also has a flap fastened with Velcro under the seat upholstery (2). This can be moved back or forwards to obtain the required tension in the lower section of the back upholstery (known as the seat bucket). By adjusting these things you can form the lower part of the back upholstery to suit the shape of your back and obtain good support for your lower back. Start by loosening the band and sit as far back in the chair as you can. Then tighten the band to give you good support. If it feels as though you are not sitting far back enough in the chair it may be because the back upholstery flap (2) is fastened too far forward under the seat. Relax this flap and move it back.

6. BALANCING THE WHEELCHAIR (FIG. 8)

The Panthera X has a fixed rear axle so balancing is achieved by moving the body position in relation to the rear axle. This can be done by moving the backrest which can be fixed in 4 different positions. The further back you mount the backrest, the more likely your chair will tip over backward. This means that the chair is light at the front and you have more weight over the rear wheels. The chair is easier to drive and it is also easier to tip up onto the rear wheels to negotiate curbs and steps. The chair should not be balanced with the backrest too far back, however, because of the danger of tipping over.



FIG. 6



FIG. 7



FIG. 8

TRANSPORT

We would like to make it quite clear that the best alternative for transportation in a vehicle is to transfer from the wheelchair into a regular passenger seat with a seatbelt.

When transporting the wheelchair in e.g. a car, you can remove the rearwheels and fold the backrest forward. See fig. 9.

1. Remove sideguards, if available.
2. Remove cushion, if available.
3. Fold the backrest forward.
4. Remove the rearwheels by pressing the center of the hubs and pull the wheels straight out. See fig. 10.

To insert the wheels, press in the button and push the axle into the hole in the casing. Then push the wheel all the way in, release the button and pull out to check that the wheel is securely in place and the button springs back out.



FIG. 9



FIG. 10

TRANSFER

Techniques for transfer must be properly practiced by qualified personnel. The methods described below are only to be considered as important advice when transferring.

SIDEWAYS

Before transfer:

- Back up the wheel chair 5-10 cm before stopping it to ensure the castor wheels are turned forward. The wheel chair should be positioned as close to the point of transfer as possible.
- Lock the brakes, grab the support on the side you will be transferring from.

- Place one hand on the far corner of the wheel chair chassis and the other on the surface you are transferring from.
- Carefully and with good balance heave yourself into till wheelchair.

IMPORTANT! Be very careful not to tip over backwards with the wheelchair when transferring.



MAINTENANCE

Your Panthera is designed to be virtually maintenance free. A few parts do require regular checking however. (Naturally you should clean and check the chair more often if you use it in more extreme environments such as in sand or salt water)

ONCE A MONTH YOU SHOULD:

1. Wipe the chair chassis over with washing-up liquid and a damp cloth. If very dirty you can use a degreasing agent.
2. Lubricate all moveable parts with a universal lubricant (5-56, WD-40) after cleaning. Clean the caster fork casing (between the wheel and the fork). Hair and dust collect here which can damage the bearing. Remove the wheel by loosen the screws using allen key 4 mm. Clean the washers between the wheel and the fork and wipe the outside of the wheel bearing with a cloth. Drop some oil into each bearing. Reassemble the parts.
3. Lubricate the rear wheel axles. Remove the wheel and distribute some drops of oil over the axle. You should do this more often if you drive in rain, sand, salt and slush or if you rarely remove the wheels.

4. Fill up the tyres with air. The tyres can be pumped by screwing the top off the valve and filling with air using an appropriate valve adapter. The tyre can take 8 bar / kg of pressure.

5. Check that all the screws and nuts are securely fastened.

Check that the chair has not been damaged.
If damage has occurred, immediately contact Panthera AB.

TWICE A YEAR YOU SHOULD:

1. Lubricate the joints of the brake with some drops of oil.
2. Wash the seat upholstery, the back upholstery and the cushion cover in 40°C machine wash when necessary.

TECHNICAL FACTS

SEAT WIDTH (CM)	33	36	39	42	45
TOTAL					
TOTAL WIDTH	53,5	56,5	59,5	62,5	65,5
TOTAL LENGTH	82,5	82,5	82,5	82,5	82,5
TOTAL HEIGHT	69	69	69	69	69
SEAT					
SEAT ANGLE	7°	7°	7°	7°	7°
SEAT HEIGHT REAR	43	43	43	43	43
SEAT HEIGHT FRONT	47	47	47	47	47
SEAT DEPTH	35-46	35-46	35-46	35-46	35-46
BACK					
BACK ANGLE REAR-FRONT	7,3–11,5°	7,3–11,5°	7,3–11,5°	7,3–11,5°	7,3–11,5°
TRANSPORT					
WIDTH	40	43	46	49	52
LENGTH	74	74	74	74	74
HEIGHT	38,5	38,5	38,5	38,5	38,5
WEIGHT					
TOTAL (G)	4400	4450	4500	4550	4600
TRANSPORT	2100	2150	2200	2250	2300
USERWEIGHT	100	100	100	100	100
AIR PRESSURE TIRES (BAR)	8	8	8	8	8

GUARANTEE AND LIFETIME

The service life of the Panthera X depends on how much wear it is subjected to and how careful you are with maintenance.

Important!

Carbon fibre is a very strong material but sensitive to impact and hard shocks. As an example, a fall backwards in the wheelchair against a hard surface can cause damage to the back frame. Damages caused by external forces are not covered by the warranty.

External accessories such as hand bikes and fixed back-rests with installation performed with clamping hardware around the chassis tube or modifications to the chassis are not permitted.

Avoid:

- Dropping/putting down the chassis on a hard surface
- Knocking the chair over backwards
- Scratching or eroding the carbon fibre construction

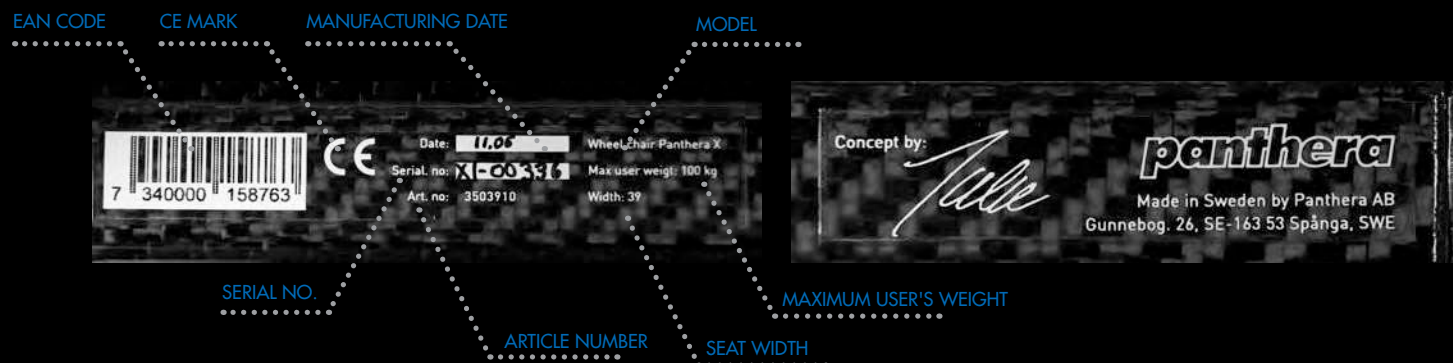
Guarantee:

We offer a five year factory guarantee on the chassis. For other parts there is a guarantee of 12 months. Maximum userweight: 100 kg.

MARKING

The CE marking and serial number are located on the under side of the wheel chair, to the left on the chassi joining tubes. See picture below.

The manufacturer's contact information is located on the under side of the wheel chair, to the left on the chassi joining tubes. See picture below.



panthera